

## Improvements in and relating to radiation detection apparatus

### Abstract

A mirror is placed between a lens and a detector array on to which a scene is focused; the mirror lies outside the bundle of rays between the lens and the image of the scene as normally viewed. This arrangement permits rays entering the lens more obliquely than the normal operation of the lens allows to fall on the detector array, though the extension to the field of view is not correctly imaged. The occurrence of an event in the normally imaged part of the scene may be distinguished from events in the extended field of view as the latter gives rise to simultaneous signals in a group of elements.

A particular application of the invention is described below. Apparatus, containing an array of detectors and a lens in a sealed housing for detecting and locating events such as fire or intruders, is designed for testing during operation. Both the cleanliness of the window and the operation of the detectors in the array may be tested by means of an auxiliary radiation source situated within the housing. The source is prevented from illuminating the array directly by an opaque shield. Radiation from the source passes through the outer portion of the window and is reflected by an inclined mirror towards the lens. After refraction by the lens it travels outwards from the axis of the lens, but is reflected by a second mirror to illuminate a part or the whole of the array.